IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
Neil Holger White EKLUND et al.	)	Group Art Unit 3693
	)	Confirmation No. 5187
Serial No. 10/781,804	)	
	)	Examiner Edward J. Baird
Filed: February 20, 2004	)	
	)	Attorney Docket 141121-4
	)	

For: SYSTEMS AND METHODS FOR MULTI-OBJECTIVE PORTFOLIO ANALYSIS USING DOMINANCE FILTERING

RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Notification of Non-Compliant Appeal Brief dated December 13, 2010, Appellant hereby submits herewith a revised Claims Appendix for the Appeal Brief filed on December 7, 2010. In the revised Claims Appendix, the claims have been corrected to match the last entered Amendment filed on June 14, 2010.

Appellant respectfully requests that the revised Claims Appendix be entered and considered by the Board.

Dated: December 16, 2010	Respectfully submitted,
	By /Peter J. Rashid/
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VIII. CLAIMS APPENDIX

1. A method for multi-objective portfolio analysis on a computing device using dominance filtering, the method comprising:

(a) generating a first set of solutions of portfolio allocations in a portfolio configuration space using the computing device, the portfolio configuration space having a plurality of dimensions;

(b) generating a second set of solutions in a portfolio performance space using the computing device, the portfolio performance space having at least three dimensions; each solution in the first set of solutions matching with a corresponding solution in the second set of solutions;

(c) selecting a first dimension from the at least three dimensions of the portfolio performance space;

(d) generating bins for all remaining non-selected dimensions of the portfolio performance space;

(e) determining a solution in each bin of the non-selected dimensions with a maximum value along the selected dimension;

(f) comparing the solution with the maximum value in each bin to other solutions in each bin to determine whether the other solutions are dominant solutions or dominated solutions; and

(g) removing the dominated solutions from the portfolio performance space so as to generate a reduced set of solutions, the reduced set of solutions being used in investment decisions.

2. The method of claim 1, the method further including the step of repeating steps (c) – (g) for at least a second dimension of the portfolio performance space after the dominated solutions are removed from the portfolio performance space.

6. The method of claim 1, wherein the plurality of dimensions is n-dimensions, and the bins are in the form of n-1 dimensional polyhedra in the portfolio performance space.

7. The method of claim 1 further including the step of performing a final dominance check on the reduced set of solutions.

11. The method of claim 1, wherein the investment decisions are based on competing objectives that include risk and return.

12. The method of claim 1, further including the step of repeating steps (c) – (g) for all remaining dimensions of the portfolio performance space after the dominated points are removed from the portfolio performance space.

13. The method of claim 12, wherein a coarseness of the bins is decreased as remaining dimensions of the portfolio performance space are selected.

16. The method of claim 7, wherein the step of performing the final dominance check on the reduced set of solutions includes generating an efficient frontier.

17. The method of claim 1, wherein the step of generating the first set of solutions of portfolio allocations includes using an evolutionary algorithm.

18. The method of claim 1, wherein the step of comparing the solution with the maximum value in each bin to other solutions in each bin includes using Pareto dominance that includes uncertainties in measuring competing objectives.

19. A non-transitory computer-readable medium storing a computer program for causing a computer to execute a multi-objective portfolio analysis using dominance filtering, the computer-readable medium comprising:

a population generation portion that generates a first set of solutions of portfolio allocations in a portfolio configuration space having a plurality of dimensions, and a second set of solutions in a portfolio performance space having at least three dimensions, each solution in the first set of solutions matching with a corresponding solution in the second set of solutions;

a dominance filtering portion that selects a first dimension from the at least three dimensions of the portfolio performance space, generates bins for all remaining non-selected dimensions of the portfolio performance space;

determines a solution in each bin of the non-selected dimensions with a maximum value along the selected dimension;

compares the solution with the maximum value in each bin to other solutions in each bin to determine whether the other solutions are dominant solutions or dominated solutions; and

removes the dominated solutions from the portfolio performance space so as to result in a reduced set of solutions, the reduced set of solutions being used in investment decisions.

20. The computer-readable medium of claim 19, wherein the dominance filtering portion, after removing the dominated solutions from the portfolio performance space, selects a second dimension from the at least three dimensions of the portfolio performance space; generates bins for all remaining non-selected dimensions of the portfolio performance space; determines a solution in each bin of the non-selected dimensions with a maximum value along the selected dimension; compares the solution with the maximum value in each bin to other solutions in each bin to determine whether the other solutions are dominant solutions or dominated solutions; and removes the dominated solutions from the portfolio performance space so as to result in a second reduced set of solutions.

22. The computer-readable medium of claim 19, wherein the plurality of dimensions is n-dimensions, and the bins are in the form of n-1 dimensional polyhedra in the portfolio performance space.

23. The computer-readable medium of claim 20, wherein the dominance filter portion, after removing the dominated solutions from the portfolio performance space, selects each of all the remaining dimensions from the at least three dimensions of the portfolio performance space; generates bins for all remaining non-selected dimensions of the portfolio performance space; determines a solution in each bin of the non-selected dimensions with a maximum value along the selected dimension; compares the solution with the maximum value in each bin to other solutions in each bin to determine whether the other solutions are dominant solutions or dominated solutions; and removes the dominated solutions from the portfolio performance space so as to result in a final reduced set of solutions.

24. The computer-readable medium of claim 23, wherein the dominance filtering portion performs a final dominance check on the final reduced set of solutions.